

# Aero Design Ltd.

## Work Order Control Sheet

Work Order#: 2015-51 Date Opened: 14 May 2015 Title: Fabrication

Aircraft OEM: Eurocopter Aircraft Model: AS350/355 Product Type: Lid Product Model: XL Ski Quantity: 4

### Work Order Contents

Work Order/Build Sheets (Procedures Provided)  
Additional Work Sheets (Standard Practice)  
Drawings (See List Below)  
Parts Distribution Sheet  
Sub Component Tags  
Completed Certification  
Time Sheet (R&D)  
Notes

Initial or N/A

JR
N/A
JR
JR
N/A
N/A
N/A
N/A

### Build Sheet Contents

Tasks Initialled  
Dual Inspections Initialled

Initial or N/A

JR
JR

### Drawing List

Drawing #	Rev #	Description	Initial or N/A
94012	0	Lid Assembly	JR

### Component Completion

Quantity Complete on This Work Order  
Quantity Incomplete on This Work Order  
Further Processing Required Before Release  
Release to Stock as Components

As Instructed

5
N/A
N/A
JR

### Certification

Form One Completed  
Serviceable (Green) Tag Completed  
In Process (Yellow) Tag Completed  
Unserviceable (Red) Tag Completed  
Parts Tracking (White) Tag Completed  
Parts Placed in Stores for Distribution

Initial or N/A

N/A
N/A
N/A
N/A
JR
N/A

### Additional Documentation

Documentation of a minor change  
Non-Conformance Report Required  
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

### Billing

Local (Aero Design)  
Research and Development  
Third Party

Initial or N/A

JR
N/A
N/A

### Traveller

Initial or N/A


Work performed by:

Print: J Rekve for M Rekve

Sign:

ICC / Dual Inspection performed by:

Print: Jason Rekve

Sign:

Work Order closed by:

Print: Jason Rekve

Sign:

SCA: AD01

Date: 26-May-15

SCA: AD01

Date: 26-May-15

SCA: AD01

Date: 26-May-15

Approved Manufacturing Facility 73-04

Form 20.D.03

Rev. Original 23 Sep 2014

## **CARGO BASKET LID FABRICATION - COMMON**

### **General**

These instructions apply to all cargo basket lid assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

#### **Bell 206L/407 – Right side only**

69812, Revision 3 – Standard Low Mounted Basket; Extra-Wide Low Mounted Basket

94612, Revision 0 – Extra-Wide Low Mounted Ski Basket

76612, Revision 0 – High Mounted Ski Basket

#### **Eurocopter AS350/AS355 – left or right**

77612, Revision 1 – Short Basket

69812, Revision 3 – Medium Basket (left and right)

78412, Revision 2 – Long Basket

→ 94012, Revision 0 – Extra Large (ski) Basket

#### **Robinson R44 – left or right**

90612, Revision 0 – Standard Basket (left or right)

#### **Bell 206B – right side only**

80212, Revision 0 – Short Basket

80312, Revision 0 – Medium Basket

81112, Revision 0 – Long Basket

#### **Bell 429 – right or left**

95912, Revision 0 – Standard Basket

#### **Bell Medium – left or right**

75112, Revision 0 – Standard Basket

95512, Revision 0 – Extra Large (ski) Basket

#### **MD600**

82812, Revision 0 – Standard Basket

#### **Options**

→ 70405, Revision 3 – Walkway

70402, Revision 1 – Lid Door

## CARGO BASKET LID FABRICATION

X4

Complete  
(initial or SCA #)

Work Order: 2015-51

Date Open: 14 MAY 2015

1. Rim Assembly – Basket Lid AD06
  - a. Cut and fit  $\frac{3}{4}$ " x 0.035 material to fit rim jig, 45 degree ends.
    - i. 1 or 2 lid prop bushing holes in short tube – refer to drawing
  - b. Record material PO on attached material list.
  - c. Remove writing on tubes with acetone and scotch bright.
2. Weld Rim Assembly AD-05
  - a. Record welding rod PO on attached material list.
3. Inspection AD06
  - a. Rim for complete welds
4. Frame assembly – Lid AD06
  - a. General
    - i. Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing)
  - b. Insert rim from step 2 into jig.
  - c. Cut and fit  $\frac{3}{4}$ " x 0.035 material, 21" long, for lid cross members.
  - d. Record material PO on attached material list.
  - e. Remove writing on tubes with acetone and scotch bright.
  - f. Drill vent holes into rim to vent cross members into rim.
  - g. Locate cross members in lid rim. Refer to drawing for spacing of cross members. Clamp cross members with C-clamps to jig.
5. Frame assembly – Lid with optional walkway modification AD06
  - a. Fit cross members to rim in accordance with step 4.
  - b. Attach walkway jig with C-clamps. Ensure correct orientation of rim, refer to drawing.
  - c. Cut  $\frac{1}{2}$ " x 0.035 material for walkway stringers to fit between lid cross members. Record material PO on attached material list.
  - d. Drill vent holes into cross members at walkway stringers.
  - e. Align walkway stringers on walkway jig using cleco clamps near both ends of each stringer, and clamp stringer to jig using a C-clamp in the centre.
6. Weld frame assembly. AD-05
  - a. Record welding rod PO on attached material list.
  - b. Jigs must remain in place for as long as practical during welding.
7. Inspection AD06
  - a. Frame assembly for complete welds.



## CARGO BASKET LID FABRICATION

Complete  
(initial or SCA #)

AD06

### 8. Mesh assembly.

Note: 95912 (Bell 429) does not have mesh. Skip to step 10.

- a. Pull sheet of expanded mesh from stock. Record material PO on attached material list.
- b. Cut mesh to size for lid.
- c. Remove surface rust with scotch-brite.
- d. Ensure lid is prepared for mesh on the correct side.

### 9. Weld mesh to frame assembly per drawing.

AD-05

- a. General welding requirements for all lids:
  - i. Every intersection on all edges.
  - ii. First 5 intersections along cross members, then every second intersection.
- b. MIG weld both short sides.
- c. Clamp lid over spacer at centre of lid to pre-tension mesh.
  - i.  $\frac{3}{4}$ " for lids under 76"
  - ii. 1" (check) for lids over 76"
- d. Weld remainder of mesh as indicated in a.
- e. Record welding rod PO on attached material list.

### 10. Weld lid components.

AD-05

- a. Handle brackets, locate in accordance with drawing.
  - i. Standard location:  $\frac{1}{4}$ " outside of last cross member on both ends.
  - ii. Record handle bracket WO and welding rod PO on attached material list.
- b. Lid prop bushing(s).
  - i. one or two in accordance with drawing.
  - ii. Record lip prop bushing WO and welding rod PO on attached material list.
- c. Placard bracket. – not installed on 95912 (Bell 429)
  - i. Locate on cross member to set bracket in centre bay of lid.
  - ii. Record placard bracket WO and welding rod PO on attached material list.

### 11. Clean up

AD06

- a. Grind high spots off mesh welds.
- b. Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out.
- c. Straighten lid using frame attached under welding table. Work carefully, avoid excessive force to prevent kinking rim tubes.
- d. Drill #9 through lid prop bushing(s). De-burr hole(s).
- e. Drill for lid bumpers using  $\frac{1}{4}$ " (#3) centre drill.
  - i. 3 places for lids under 76"
  - ii. 4 places for lids over 76"
- f. Remove surface rust with scotch-brite pad.

### 12. Final Inspection

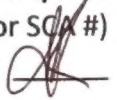
To be completed by a different person than the previous steps.

- a. Basket lid assembly for complete welds, and required minimum mesh weld locations.
- b. Material lists complete.
- c. Overall condition and conformity to drawing(s).

*AK*

## CARGO BASKET LID FABRICATION

Complete  
(initial or SQA #)



### 13. Powder Coating

- a. Parts are to be powder coated white in accordance with commercial practices.
- b. Record powder coating PO.
- c. Inspect powder coating on receiving.
- d. Tag lid assembly and place into stock in preparation for assembly.

Work Order: ~~2015-50~~ 2015-51

Date Opened: 2015 MAY 14

Material Tracking Sheet  
Eurocopter AS350 / AS355  
Extra Large Lid Fabrication

1 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	4	94012	94012-01	Lid Assembly		
Step 1				Rim Assembly		
	. 2		--	3/4" Tube - Long Rim (97")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14099
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14099
Step 2				Weld Rim Assembly		
	. A/R			Welding Rod	ER70S-2 TIG Rod	14033
Step 3				Inspection - Rim	None	
Step 4				Frame Assembly		
	. 4		--	3/4" Tube - Cross Member (21")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14099
Step 5		70405		Option: Frame Assembly - with walkway		
	. 10		--	1/2" Tube - walkway	4130 Steel, 1/2" x 0.035 Sqr. Tube	14099
Step 6				Weld Frame Assembly		
	. A/R			Welding Rod	ER70S-2 TIG Rod	14033
Step 7				Inspection - Frame Assembly	None	
Step 8				Mesh Assembly		
	. 1		--	Mesh (lid - 96" x 22")	3/4-16F Expanded Mild Steel sheet	14012
Step 9				Weld Mesh		
	. A/R			Welding Rod	ER70S-6 MIG Wire	14028

Work Order: 2015-51Material Tracking Sheet  
Eurocopter AS350 / AS355  
Extra Large Lid Fabrication

2 of 2

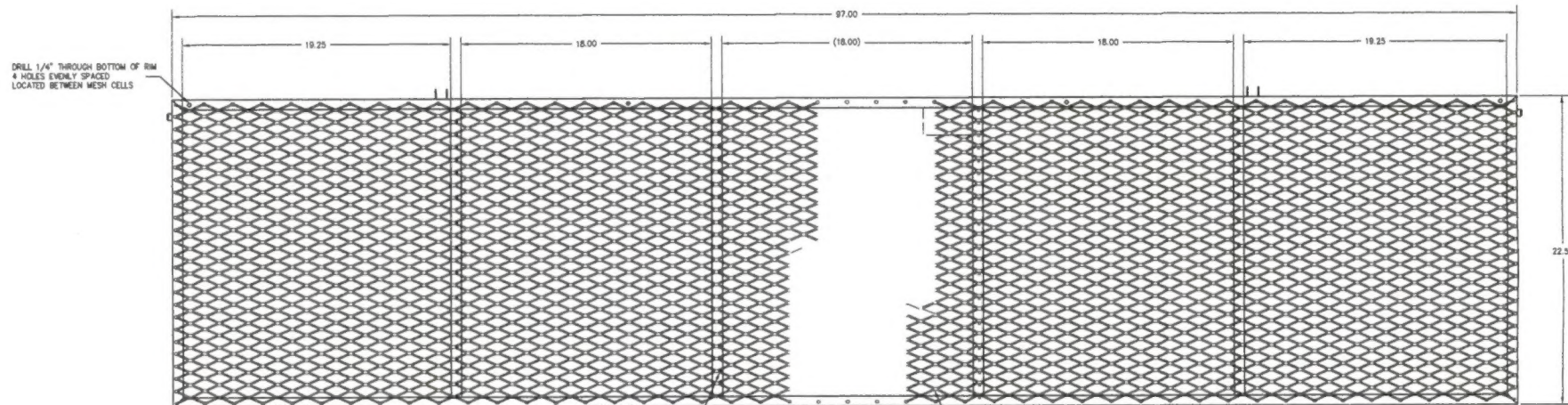
Date Opened: 14 MAY 2015

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
<b>Step 10</b>				<i>Weld Lid Components</i>		
	1	84262	84262-01	Upper Handle Bracket Assembly		
	4		36273-01	Lid Bracket	321 Stainless, 0.050 Sheet	2014-79
	2		36275-02	Support	304 Stainless, 5/16" Rod	2014-79
	A/R			Welding Rod	ER308L TIG Rod	14028
	2		49216-01	Spacer (Lid prop)	304 Stainless, 1/2" Dia.	2015-07
	A/R			Welding Rod	ER308L TIG Rod	14028
	1		36204-10	Placard Bracket	1018 Steel, 0.035" Sheet	2014-81
	A/R			Welding Rod	ER70S-2 TIG Rod	14033
<b>Step 11</b>				<i>Clean Up</i>		
<b>Step 12</b>				<i>Inspection - Final Assembly</i>		
<b>Step 13</b>				<i>Powder Coating</i>		



2015-10-51 OK

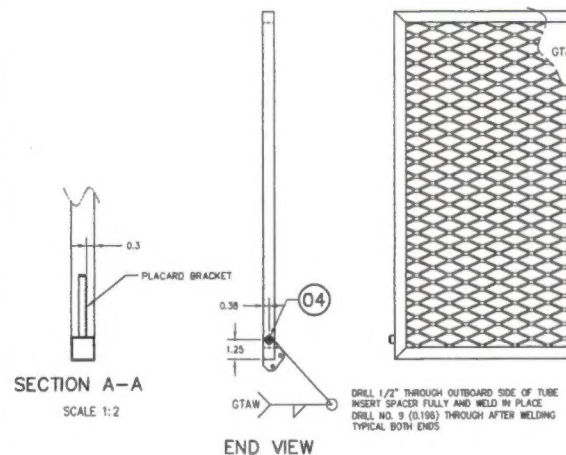
REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED: CHANGED 36273-01 TO 94012-01; ITEM #S ADDED	BUC	16/07/2014
	WELDING ROD UPDATED: # OF WELDS DOWN BRACE TUBES INCREASED		



GTAW TYP  
ATTACHMENT OF MESH TO RIM:  
WELD EACH INTERSECTION

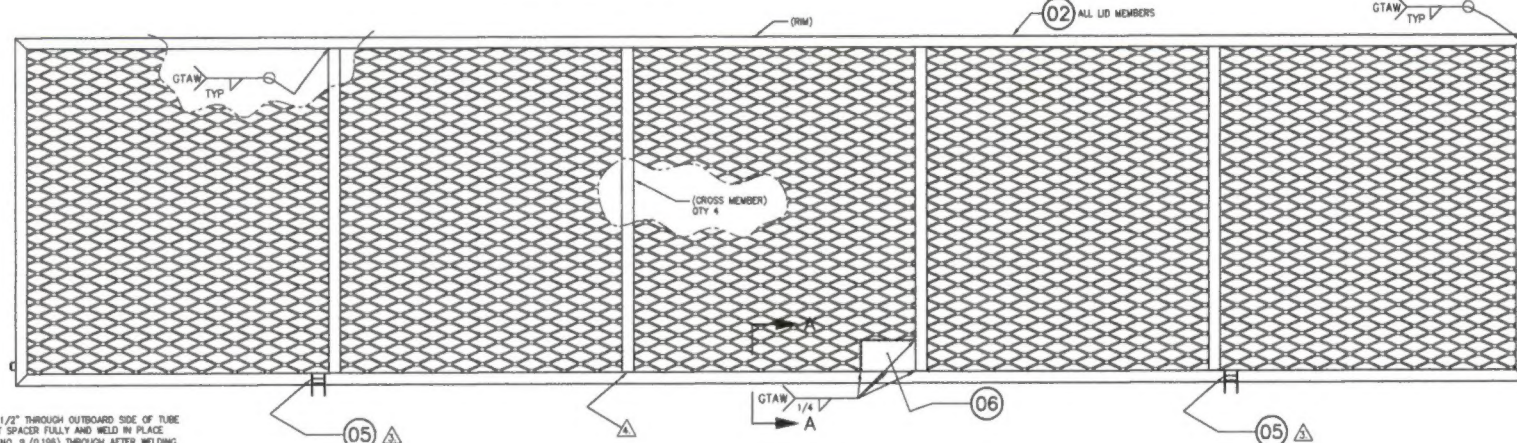
GTAW TYP  
ATTACHMENT OF MESH TO CROSS MEMBERS:  
WELD FIRST FIVE INTERSECTIONS  
THEN EVERY SECOND INTERSECTION  
ADDITIONAL WELDS ARE PERMITTED AS REQUIRED

BOTTOM VIEW 03 MESH



SECTION A-A  
SCALE 1:2

END VIEW



TOP VIEW

01 LID ASSEMBLY

- NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
  2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS 2685C.  
4130 AND 1018 STEEL: WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.  
STAINLESS AND 4130 STEEL: WELDING ROD SHALL CONFORM TO ER308L OR EQUIVALENT.
  3. INSTALL ITEM 5 (LID HANDLE PROVISIONS ASSEMBLY) IN ACCORDANCE WITH AERO DESIGN LTD. DRAWING 84263.
  4. DRILL #30 (0.129) HOLES IN LONG TUBE MEMBERS AT BRACE LOCATIONS TO VENT WELD GASSES.  
WHEN ASSEMBLY IS COMPLETE, FILL ALL EXPOSED VENT HOLES WITH ROSETTE WELD.
  5. FINISH: THOROUGHLY CLEAN AND POWDER COAT LID ASSEMBLY.

QTY	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
1	36204-10	01	PLACARD BRACKET			
1	84263-01	02	LID HANDLE PROVISIONS ASSEMBLY			
2	45216-01	04	SPACER			
A/R	3/4 - 16F	03	MESH	MILD STEEL	COMMERCIAL	
A/R		02	SQUARE TUBE	4130 STEEL COND. H	ML-T-6736	0.75 X 0.035 SQR TUBE
	94012-01	01	LID ASSEMBLY			

APPROVALS	DATE	
DRAWN: R. RATHWELL	05 AUG 11	
CHECKED: E. BURGON		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:		
DECIMALS	ANGLES	
X.XXX ±0.010	±1/2°	
X.XX ±0.03		
X.X ±0.1		
AERO DESIGN LTD.		
9808A MALASPONA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.463.1370 www.aerodesign.ca		
EUROCOPTER AS350 & AS355 SERIES QUICK RELEASE CARGO BASKET LID ASSEMBLY (EXTRA LARGE)		
SCALE 1:4	DWG SIZE	DWG NO.
SHEET 1 OF 1	A1	94012
		1